AMENDMENT AND PRESENTATION OF CLAIMS

Please replace all prior claims in the present application with the following claims, in which claims 1-23 are currently amended.

1. (Currently Amended) ~~Method~~ A method for testing ~~the~~ a time delay error ratio ER of a device against a maximal allowable time delay error ratio ER_{limit} with an early pass criterion, whereby the early pass criterion is allowed to be wrong only by a small probability D_1, ~~with~~ comprising the following steps:

[[-]] measuring ns time delays (TD) of the device, thereby detecting ne bad time delays, which exceed a certain time limit, of these ns time delays (TD),

[[-]] ~~assuming that the~~ estimating a likelihood distribution giving ~~the~~ a distribution of ~~the~~ a number ni of bad time delays in a fixed number of samples of time delays (TD) ~~is~~ as $PD(ni, NE)$, wherein NE is the average number of bad time delays,

obtaining PD_{high} from $D_1 = \int_0^{ne} PD_{high}(ni, NE_{high})dni$, wherein PD_{high} is the worst possible likelihood distribution containing the measured ne bad time delays with the probability D_1,

[[-]] obtaining the average number NE_{high} of bad time delays for the worst possible likelihood distribution PD_{high}

[[-]] comparing NE_{high} with $NE_{limit} = ER_{limit} \cdot ns$,

[[-]] if NE_{limit} is higher than NE_{high} stopping the test and deciding that the device has early passed the test and

[[-]] if NE_{limit} is smaller than NE_{high} continuing the test whereby increasing ns.

2. (Currently Amended) ~~Method~~ A method for testing ~~the~~ a time delay error ratio ER of a device against a maximal allowable time delay error ratio ER_{limit} with an early pass criterion, whereby the early pass criterion is allowed to be wrong only by a small probability D_1 for the entire test, ~~with~~ comprising the following steps:

[[-]] measuring ns time delays (TD) of the device, thereby detecting ne bad time delays, which exceed a certain time limit, of these ns time delays (TD),

[[-]] ~~assuming that the~~ estimating a likelihood distribution giving ~~the~~ a distribution of the number ni of bad time delays in a fixed number of samples of time delays (TD) ~~is~~ as $PD(ni, NE)$, wherein NE is the average number of bad time delays,

obtaining PD_{high} from $D_1 = \int_0^{ne} PD_{high}(ni, NE_{high})dni$ wherein PD_{high} is the worst possible likelihood distribution containing the measured ne bad time delays with a single step wrong decision probability D_1 for a preliminary error ratio ER stage, whereby using a single step wrong decision probability D_1 smaller than the probability F_1 for the entire test,

[[-]] obtaining the average number of NE_{high} of bad time delays for the worst possible likelihood distribution PD_{high},

[[-]] comparing NE_{high} with $NE_{limit} = ER_{limit} \cdot ns$,

[[-]] if NE_{limit} is higher than NE_{high} stopping the test and deciding that the device has early passed the test and

[[-]] if NE_{limit} is smaller than NE_{high} continuing the test whereby increasing ns.

3. (Currently Amended) ~~Method~~ A method according to claim 1, ~~characterized in that~~ wherein the single step wrong decision probability D_1 is in the range of $F_1 > D_1 \geq 1-(1-F_1)^{1/ne}$.

4. (Currently Amended) ~~Method~~ A method according to ~~any of claims~~ claim 1 ~~to 3~~, ~~characterized in that~~ wherein the likelihood distribution $PD_{high}(ni, NE)$ is ~~the~~ a Poisson distribution.

5. (Currently Amended) ~~Method~~ A method according to ~~any of claims~~ claim 1 ~~to 3~~, ~~characterized in that~~ wherein the likelihood distribution $PD_{high}(ni, NE)$ is ~~the~~ a binomial distribution.

6. (Currently Amended) ~~Method~~ A method according to ~~any of claims~~ claim 1 ~~to 5~~, ~~characterized in that~~ wherein, for avoiding an undefined situation for $ne = 0$ starting the test with an artificial bad time delay $ne = 1$, not incrementing ne ~~then~~ when a first error occurs.

7. (Currently Amended) ~~Method~~ A method for testing the time delay error ratio ER of a device against a maximal allowable time delay error ratio ER_{limit} with an early fail criterion, whereby the early fail criterion is allowed to be wrong only by a small probability D_2, ~~with~~ comprising the following steps:

[[-]] measuring ns time delays (TD) of the device, thereby detecting ne bad time delays, which exceed a certain time limit, of these ns time delays (TD),

[[-]] ~~assuming that the~~ estimating a likelihood distribution giving ~~the~~ a distribution of the number ni of bad time delays in a fixed number of samples of time delays (TD) ~~is~~ as $PD(ni, NE)$, wherein NE is the average number of bad time delays,

obtaining PD_{low} from ~~the~~ $D_2 = \int_{ne}^{\infty} PD_{low}(ni, NE_{low})dni$ wherein PD_{low} is the best possible likelihood distribution containing the measured ne bad time delays with the probability D_2,

[[-]] obtaining the average number NE_{low} bad time delays for the best possible likelihood distribution PD_{low},

[[-]] comparing NE_{low} with $NE_{limit} = ER_{limit} \cdot ns$,

[[-]] if NE_{limit} is smaller than NE_{low} stopping the test and deciding that the device has early passed the test and

[[-]] if NE_{limit} is higher than NE_{low} continuing the test whereby increasing ns.

8. (Currently Amended) ~~Method~~ A method for testing ~~the~~ a time delay error ratio ER of a device against a maximal allowable time delay error ratio ER_{limit} with an early fail criterion, whereby the early fail criterion is allowed to be wrong only by a small probability F_2 for the entire test, ~~with~~ comprising the following steps:

[[-]] measuring ns time delays (TD) of the device, thereby detecting ne bad time delays, which exceed a certain time limit, of these ns time delays (TD),

[[-]]~~assuming that the~~ estimating a likelihood distribution giving ~~the~~ a distribution of the number ni of bad time delays in a fixed number of samples of time delays (TD) ~~is~~ as $PD(ni, NE)$, wherein NE is the average number of bad time delays,

obtaining PD_{low} from $D_2 = \int_{ne}^{\infty} PD_{low}(ni, NE_{low})dni$ wherein PD_{low} is the best possible likelihood distribution containing the measured ne bad time delays with a single step wrong decision probability D_2 for a preliminary error ratio ER stage, whereby using a

single step wrong decision probability D_2 smaller than the probability F_2 for the entire test,

[[-]] obtaining the average number NE_{low} bad time delays for the best possible likelihood distribution PD_{low},

[[-]] comparing NE_{low} with $NE_{limit} = ER_{limit} \cdot ns$,

[[-]] if NE_{limit} is smaller than NE_{low} stopping the test and deciding that the device has early passed the test and

[[-]] if NE_{limit} is higher than NE_{low} continuing the test whereby increasing ns.

9. (Currently Amended) ~~Method~~ A method according to claim 8, ~~characterized in that~~ wherein the single step wrong decision probability D_2 is in the range of $F_2 > D_2 \geq 1-(1-F_2)^{1/ne}$.

10. (Currently Amended) ~~Method~~ A method according to ~~any of claims~~ claim 7 ~~to 9~~, ~~characterized in that~~ wherein the likelihood distribution $PD_{low}(ni, NE)$ is ~~the~~ a Poisson distribution.

11. (Currently Amended) ~~Method~~ A method according to ~~any of claims~~ claim 7 ~~to 9~~, ~~characterized in that~~ wherein the likelihood distribution $PD_{low}(ni, NE)$ is ~~the~~ a binomial distribution.

12. (Currently Amended) ~~Method~~ A method according to ~~any of claims~~ claim 7 ~~to 11~~, ~~characterized in that~~ wherein for avoiding a undefined situation for $ne < k$, wherein k is a small number of bad time delays, not stopping the test as long as ne is smaller than k.

13. (Currently Amended) ~~Method~~ A method according to ~~any of claims~~ claim 7 ~~to 12~~, characterized by an additional early pass criterion, whereby the early pass criterion is allowed to be wrong only by a small probability D_1, ~~with the following additional steps~~ further comprising:

[[-]] ~~assuming that the~~ estimating a likelihood distribution giving ~~the~~ a distribution of the number of bad time delays ni in a fixed number of samples of time delays (TD) is $PD(ni, NE)$, wherein NE is the average number of bad time delays,

obtaining PD_{high} from $D_1 = \int_0^{ne} PD_{high}(ni, NE_{high})dni$ wherein PD_{high} is the worst possible likelihood distribution containing the measured ne bad time delays with the probability D_1,

[[-]] obtaining the average number NE_{high} of bad time delays for the worst possible likelihood distribution PD_{high}

[[-]] comparing NE_{high} with $NE_{limit} = ER_{limit} \cdot ns$,

[[-]] if NE_{limit} is higher than NE_{high} stopping the test and deciding that the device has early passed the test and

[[-]] if NE_{limit} is smaller than NE_{high} continuing the test, whereby increasing ns.

14. (Currently Amended) ~~Method~~ A method according to ~~any of claims~~ claim 7 ~~to 12~~, characterized by an additional early pass criterion, whereby the early pass criterion is allowed to be wrong only by a small probability D_1, ~~with the following additional steps~~ further comprising:

[[-]] ~~assuming that the~~ estimating a likelihood distribution giving ~~the~~ a distribution of the number of bad time delays ni in a fixed number of samples of time delays (TD) is $PD(ni, NE)$, wherein NE is the average number of bad time delays,

obtaining PD_{high} from $D_1 = \int_0^{ne} PD_{high}(ni, NE_{high})dni$ wherein PD_{high} is the worst possible likelihood distribution containing the measured *ne* bad time delays with the probability D_1,

[[-]] obtaining the average number NE_{high} of bad time delays for the worst possible likelihood distribution PD_{high}

[[-]] comparing NE_{high} with $NE_{limit,M} = ER_{limit} \cdot M \cdot ns$, with $M > 1$,

[[-]] if $NE_{limit,M}$ is higher than NE_{high} stopping the test and deciding that the device has early passed the test and

[[-]] if $NE_{limit,M}$ is smaller than NE_{high} continuing the test, whereby increasing *ns*.

15. (Currently Amended) ~~Method~~ A method according to claim 13 ~~or 14~~, ~~characterized in that~~ wherein the probability D_1 for the wrong early pass criterion and the probability D_2 for the wrong early fail criterion are equal ($D_1 = D_2$).

16. (Currently Amended) ~~Method~~ A method according to ~~any of claims~~ claim 7 ~~to 12~~, characterized by an additional early pass criterion, whereby the early pass criterion is allowed to be wrong only by a small probability F_1 for the entire test, ~~with the following additional steps~~ further comprising:

[[-]]~~assuming that the~~ estimating a likelihood distribution giving ~~the~~ a distribution of the number of bad time delays *ni* in a fixed number of samples of time delays (TD) is *PD(ni, NE)*, wherein *NE* is the average number of bad time delays,

obtaining PD_{high} from $D_1 = \int_0^{ne} PD_{high}(ni, NE_{high})dni$ wherein PD_{high} is the worst possible likelihood distribution containing the measured *ne* bad time delays with a single step

wrong decision probability D_1 for a preliminary error ratio ER stage, whereby using a single step wrong decision probability D_1 smaller than the probability F_1 for the entire test,

[[-]] obtaining the average number of NE_{high} of bad time delays for the worst possible likelihood distribution PD_{high},

[[-]] comparing NE_{high} with $NE_{limit} = ER_{limit} \cdot ns$,

[[-]] if NE_{limit} is higher than NE_{high} stopping the test and deciding that the device has early passed the test and

[[-]] if NE_{limit} is smaller than NE_{high} continuing the test, whereby increasing ns.

17. (Currently Amended) ~~Method~~ A method according to ~~any of claims~~ claim 7 ~~to 12~~, characterized by an additional early pass criterion, whereby the early pass criterion is allowed to be wrong only by a small probability F_1 for the entire test, ~~with the following additional steps~~ further comprising:

[[-]]~~assuming that the~~ estimating a likelihood distribution giving ~~the~~ a distribution of the number of bad time delays ni in a fixed number of samples of time delays (TD) is $PD(ni, NE)$, wherein NE is the average number of bad time delays,

obtaining PD_{high} from $D_1 = \int_0^{ne} PD_{high}(ni, NE_{high})dni$ wherein PD_{high} is the worst possible likelihood distribution containing the measured ne bad time delays with a single step wrong decision probability D_1 for a preliminary error ratio ER stage, whereby using a single step wrong decision probability D_1 smaller than the probability F_1 for the entire test,

[[-]] obtaining the average number NE_{high} of bad time delays for the worst possible likelihood distribution PD_{high}

[[-]] comparing NE_{high} with $NE_{limit,M} = ER_{limit} \cdot M \cdot ns$, with $M > 1$,

[[-]] if $NE_{limit,M}$ is higher than NE_{high} stopping the test and deciding that the device has early passed the test and

[[-]] if $NE_{limit,M}$ is smaller than NE_{high} continuing the test, whereby increasing ns.

18. (Currently Amended) ~~Method~~ A method according to claim 16 ~~or 17~~, ~~characterized in that~~ wherein the probability F_1 for the wrong early pass criterion and the probability F_2 for the wrong early fail criterion are equal ($F_1 = F_2$).

19. (Currently Amended) ~~Method~~ A method according to ~~any of claims~~ claim 7 ~~to 18~~, ~~characterized in that~~ whreein for avoiding a undefined situation for ne=0 starting the test with an artificial bad time delay ne=1 not incrementing ne ~~then~~ when a first error occurs.

20. (Currently Amended) ~~Digital~~ A digital storage medium with control signals electronically readable from the digital storage medium, which interact with a programmable computer or digital signal processor in a manner that all steps of the method according to ~~any of claims~~ claim 1 ~~to 19~~ can be performed.

21. (Currently Amended) ~~Computer~~ A computer-program-product with program-code-means stored on a machine-readable data carrier to perform all steps of ~~any of claims~~ claim 1 ~~to 19~~, when the program is performed on a programmable computer or a digital signal processor.

22. (Currently Amended) ~~Computer~~ A computer program with program-code-means to perform all steps of ~~any of claims~~ claim 1 ~~to 19~~, when the program is performed on a programmable computer or a digital signal processor.

23. (Currently Amended) ~~Computer~~ A computer program with program-code-means to perform all steps of ~~any of claims~~ claim 1 ~~to 19~~ when the program is stored on a machine-readable data carrier.